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VASCULAR GROWTHS

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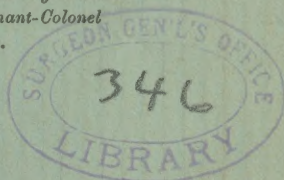
FEMALE MEATUS URINARIUS.

BY

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Vice-President of the Gynæcological Society of Boston ; Member of the Massachusetts Medical Society ; Member of the American Academy of Medicine ; Member of the Cambridge Society for Medical Improvement ; Member of the American Medical Association ; Member of the Ninth International Medical Congress ; Member of the American Public Health Association ; Late Surgeon of the Sixth Regiment, New York Cavalry ; Late Surgeon-in-Chief of the First Cavalry Division of the Army of the Potomac ; Brevet Lieutenant-Colonel New York State Volunteers ; etc.



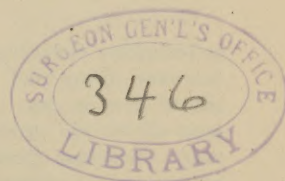
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CAMBRIDGE, MASS.

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VASCULAR GROWTHS

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RENAL MEDULLA URINARIA.

AUGUSTUS P. CLARKE, A.M., M.D.

DANVERS, MASS.

1882

VASCULAR GROWTHS OF THE FEMALE MEATUS URINARIUS.

EXCROISSANCES VASCULAIRES DU CANAL URINAIRE FÉMININ

ERECTILE GEWÄCHSE DER WEIBLICHEN HARNRÖHRE.

BY AUGUSTUS P. CLARKE, A. M., M. D.,

Cambridge, Mass.

Vascular growths which usually occur near the meatus urinarius are recognized as the most common neoplasms that invade the female urethra. They are the source of much suffering, and the treatment employed for their radical cure or even for the amelioration of the suffering has often proved quite unsatisfactory. As yet the cause for the appearance of these growths has not been satisfactorily explained. Some authors call the growth a caruncle, while M. Gosselin and others denominate the growth a *polype cellule vasculaire du méat urinaire*. M. Gosselin* says the growth differs from a common polypus in its structure not being so limited; for it often embraces fibrous and muscular tissues. The growth also differs from the classic polypus, he remarks, by the peculiarity of the pedicle. The vascular growth is usually irregularly shaped and appears as an excrescence, highly injected, and through its structure is distributed a peculiar arrangement of cells and tissues which at length acquire a most exalted state of hyperæsthesia. Some authors † have conjectured that fibres of the sympathetic must undergo some peculiar change in their intimate relation to the vessels of these growths, that they are capable of producing such exquisite sensibility. The displaced and gravid uterus pressing upon a venous plexus or upon the capillaries of the part may induce urethral hyperæmia, and consequently give rise to hypertrophied papillæ. The growth is surmounted with basement epithelium, and the long-continued congestion no doubt causes an undue and altered development of the nervous tissue. These growths do not always make their appearance at the meatus, but often occur some distance within the urethra.

Authors are not agreed as to whether nerves enter into these tumors. Some observers ‡ claiming to find a free distribution of nerve element; others in their investigations have denied the presence of the nerve element altogether, or that the seat of the great sensitiveness is in any part of their own tissue, § but only into that portion of the

* Clinique Chirurgicale hôpital, de la Charité Service de M. C., Professeur Gosselin, Samedi 8 Juillet, 1876.

† Emmet's "Principles and Practice of Gynæcology," 1879.

‡ "Diseases of Women," 1879, by Lawson Tait, F. R. C. S. "Wood's Library of Standard Medical Authors."

§ "Vascular Tumors of the Female Urethra," 1877. By A. Reeves Jackson, Chicago, Ill.

mucous membrane to which they are attached, do the nerves fibres enter. There are still others who have made very careful investigations, and, though they do not deny the presence of the nerve tissue, they have failed to find it. That these growths are penetrated by nervelets, some observers maintain, is evidenced by the fact that even when lightly touched, without influencing the basement membrane, extreme suffering often results. Skene mentions a case of an old lady, who, though married, was still a virgin. The growth was so exquisitely sensitive that coition was impossible. Even the clothes coming in contact with the parts produced vaginal and anal spasms. Pepper* refers to Hart and Barbour,† who define these neoplasms as “consisting of dilated capillaries in connective tissue, the whole being covered with squamous epithelium.” Skene‡ says one case is recorded in which the pavement was replaced by the columnar epithelium. Nerve tissue entering into the structure of these growths has long been believed to be a fact. Thus, J. Braxton Hicks§ remarked that the difference in the suffering depends whether the sensitive papillæ (Pacinian bodies) are hypertrophied or not. In some the growth of the vascular element is in excess, in some—the majority—the nerve tissue; in others the basement layer. In those which are most sensitive the Pacinian bodies are hypertrophied and distinct. The beautifully injected state of these growths can be seen to the best advantage when they are carefully removed by the snare or wire noose. Reference to the anatomical structure of the Pacinian corpuscles, as they are situated on the peripheral extremities of the nerve fibres in their various localities, and especially in the perineum, and in the bulb and meatus of the urethra, will readily explain why such exquisitely acute sensibility is experienced when these little pyriform masses have undergone a prolonged and marked pathological change, and the reason why, even after extensive excision, unless the parts are thoroughly cauterized, repullulation so often ensues. Jonathan Hutchinson|| says that these growths often cause very serious constitutional disturbance, and that in one case he knew urethral or urinary paraplegia to result. Erichsen¶ speaks of these polypoid tumors as occasionally being of a gonorrhoeal origin. He says they are composed of a spongy kind of erectile tissue, and are not unfrequently accompanied by a vast deal of sympathetic irritation. It is said that the erectile element often markedly increases at the menstrual period.** The nature and structure of these growths should not be considered so much a question of literary curiosity, as of one affecting prognosis and the causation of other morbid processes, such as insanity, epilepsy, etc. Professor Gosselin says we should always consider the question whether they are of a benign character, and also whether we can generalize and refer them to an infectious and septic class of diseases, especially when they are prone to suppuration. Sir James Y. Simpson†† was the first author who brought the disease into prominent notice, although, upward of fourscore years ago, Sir Charles Clarke, in his work on diseases of women, gave a description of an abnormal growth occasionally occurring at the meatus urinarius.

The little tumors which that author described were of a reddish color, and raised above the surface of the urethral mucous membrane. They were prone to bleed and were the cause of much dysuria. The same affection is also mentioned by earlier writers, but their descriptions are, for the most part, very vague and indefinite. Authors are now quite well agreed upon the nature of these growths being benign. In the cases in which

* William Pepper's "System of Medicine," 1886. Vol. iv, page 403.

† "Manual Gynæcology," 1883. Edinburgh.

‡ Skene's "Diseases of the Bladder and Urethra in Women."

§ "Braithwaite's Retro." Part 56, page 261.

|| "Surgical Diseases of Women." By J. Hutchinson, Esq., F. R. S., London. Vol. 2 Holmes' "System of Surgery," 1881.

¶ Erichsen's "Science and Art of Surgery."

** Skene, op. cit.

†† Also mentioned by A. R. Jackson, in his article referred to.

repullulation ensues, it occurs in the parts nearest the growth and where the disease at first does not show itself; but where later it becomes developed, and then has a semblance of malignancy. Their disposition to bleed from slight causes, owing to their friable and vascular character, often impresses the patient with the thought that she is the subject of a malignant disease. As already stated, these growths are the cause of much suffering. Cases of temporary insanity have been reported resulting from the severe local and constitutional symptoms. Cases occasionally occur, in which other lesions or morbid processes are present, and which are mistaken for the real cause of the suffering until the patient is nearly worn out or has become miserable. In some of the cases reported attention was at first directed to the vulva, uterus and its appendages, and, in fact, the whole routine of treatment has been gone through without the least benefit, until the removal or destruction of the little intruder, when the entire train of ills disappeared, as by magic. Goodell says the affection does not appear until after the prime of life, and is more common in married women than in virgins. Vascular growths may be single or multiple, and may be attached by a pedicle or by a sessile base. The color varies from a raspberry to a strawberry hue. They vary also as to size. Sometimes they are so exceedingly small as to be no larger than the head of a pin, and are consequently overlooked. Others attain to the size of a quite large cherry. The usual site is at the lower angle of the meatus; but they often extend into the urethra for quite a distance, and so may remain undiscovered. Goodell says he has seen the whole rim of the meatus studded with them. Lawson Tait* says their attachment is at the mucous membrane, and that the growths are most generally pedunculated. He further says, these growths are very frequently associated, in women at their middle period of life, with the vascular degeneration of the mucous membrane, and from a number of observations which that author has made on their structure, he concludes that they have much the same origin. The chief histological characters of these growths, he remarks, are the abundance of loops of capillaries, irregularly dilated, and having very thin walls, with a singular deficiency of cell element and fibrous stroma. He had also seen nerve fibres in them. These facts explain a great many of the features of these growths, and it is quite possible that they are progressive in the same way as is the vascular degeneration and atrophy of the nymphæ, for their recurrence is not the recurrence of malignancy, but rather the invasion of another though neighboring district. This last statement, it will be observed, coincides pretty nearly with the conclusions of M. Gosselin. Tait had seen no indication, however, that these growths ultimately cease to recur, for almost the last case in which he had operated, before he wrote out his investigations, was one in which, during a period of nearly forty years, they had been removed at intervals of every four or five years. In a footnote the same author observes, the fact that they never reach any great size is in support of the view he had advanced, that they are really dilated capillaries from atrophy of the surrounding tissues. Tait, speaking of the peculiar degenerative and atrophic change to which the nymphæ are subject when associated with vascular growths, says, in one instance he was enabled to remove a fragment of mucous membrane presenting a patch of this vascular change, and he found enough to display the pathology of this mysterious disease. He placed the fresh fragment in a freezing microtome, and having stained the section with hæmatoxylin, silver lactate, gold perchloride and carmine, he found that at the site of the spot all the texture had been removed save a few fibres; the walls of the capillaries and the superficial epithelium under which the loops of the capillaries with thinned and dilated wall lays, almost unprotected. These observations, he further says, explain the three chief clinical facts the disease presents, viz.: the great pain, the abnormal vascularity of the spots and their tendency to bleed when

* Lawson Tait, F.R.C.S., op. cit.

touched, and the contraction of the surface as the third stage. It is, in fact, a progressive atrophy of the mucous membrane, the last texture affected being the blood vessels and nerves, for when the process has been completed, the pain ceases, redness disappears, and nothing remains but a vestibulum vaginæ so narrow that incredulity may be excused when the patient states that she has borne children. Tait had the good fortune in two cases to watch the complete course of the disease almost from the commencement to its perfect recovery, and had seen all the stages described. He bears testimony to the view that the degenerative process often works its own cure. Becoming interested in the researches of Tait and of others who have studied these growths with so much care, the subject seemed to me worthy of further investigation. I accordingly succeeded in obtaining the services of Dr. S. N. Nelson, of Boston, to assist me in prosecuting the work, and in illustrating the result of the following original investigations.

The caruncles of the female urethra on which these investigations have been made were about the size of a pea. Histologically they had the characteristics of papillomata, *i.e.*, connective tissue base growing outward more or less irregularly, with papillæ, and all covered with epithelium. When the surface is comparatively smooth the papillæ are of quite uniform size and length, forming pouches between them. When the surface is uneven the papillæ vary in size and length, and direction of growth. Typical arrangement of epithelium: columnar cells, oval nuclei in surface layers, *i.e.*, next to the surface of the papillæ. These are separately arranged—one or two layers; round cells with round nuclei in their middle portion irregularly disposed; large flat cells with large nuclei on outer surface, or squamous epithelium. In the pouches the same arrangement exists, and as they are always filled with the epithelium the flat cells predominate in the centre, which correspond to the outer surface. In any given section the majority of the papillæ are cut longitudinally, but owing to their irregularity certain ones with their intervening pouches may be cut transversely, and the pouches thus cut may frequently be seen surrounded on all sides by the connective tissue base. These will be recognized as such by being filled with epithelium, which has the same arrangement as the epithelium on the outside. These pouches should not be confounded with glands filled up, or with the lobules of a carcinoma. The connective tissue base is composed of connective tissue cells, and in addition always has more or less of the small, indifferent or wandering cells with small, round nuclei. These are generally irregularly disposed, and their number is dependent on the amount of irritation to which the individual caruncle is exposed, being few and scattered or very abundant. They are besides also found aggregated in certain localized spots of varying size. The vascularity of the caruncle is a varying factor, but the vessels were larger than the capillaries, abundant in no case, and in none were they as plentiful as in the submucosa of the normal mucous membrane of the urethra (see specimens and photos). The supply of nerves seems to be very questionable, contrary to the opinions heretofore advanced by J. Braxton Hicks, Lawson Tait, Read and others. Osmic acid failed to stain them, thus showing that there was no myeline present, and it is known that nerves near their terminations lose their myeline and tubular sheath, and the fibrillæ are composed of axis cylinder only. This was seen in the connective tissue base sometimes, but none of the terminal organs could be found, either as tactile corpuscles or Pacinian bodies. There is a question if the Pacinian bodies may not be found lower down in the tissues than the portion shown, which was excised to relieve the symptoms. The specimens examined were only those removed during such operations. Glands are not found in these growths, as in the normal mucous membrane of the urethra.

From the microscopic studies of the histology of these growths, urethral caruncles may be defined as neoplasms, new growths, papillomata, which do not tend toward retrograding, but remain as tumors, and this is true, although they have numerous points of contact, thus differing from ordinary inflammatory granulations.

The treatment of vascular growths must be adapted to their varying phases. In some cases the application of ligatures has proved very effective. In other cases a resort to excision, either by the knife or scissors, when followed by the free use of caustics, such as fuming nitric acid, has often resulted in effecting a cure. When the growth is sessile or quite flat we have to rely chiefly upon caustics or upon the actual cautery. The galvano-cautery formerly was highly praised, but since the appearance of the thermo-cautery of Paquelin it is now seldom used.

Electricity or galvanism has been useful in the dispersion of tumors, and when applied, the object was not to effect their decomposition but to modify their nutrition. An electric current was passed through them for a length of time, varying with the size of the growth and the strength. According to Dr. Althaus,* the negative pole, the zinc end of the battery, was the one applied to the growth, while the positive pole was applied to some neighboring part. The operation sometimes had to be repeated until the growth was completely obliterated. Carbolic acid in the solid form or as a saturated solution has been much used as a mummifying agent. A saturated solution of chromic acid, applied by pressing it firmly on the surface, has been used. This is said, however, to cause some inconvenience and to require cotton wool, soaked in a solution of carbonate of soda, to neutralize any excess of acid. Nitrate of silver is not now regarded as sufficiently potent to destroy the growth, and applications of nitrate of mercury and potassa fusa are often followed by painful effects. Sometimes the use of a red-hot needle, followed by a careful application of nitric acid, may result in a cure. Painting the growth and the area surrounding its attachment with a twenty per cent. solution of cocaine has been done, and the operation † of cutting off the growth with curved scissors was painless. A five per cent. solution has been used, rendering the growth painless in five minutes. There was no pain during or after the operation of excision. This case was reported by J. D. Eggleston, M. D., ‡ Worsham, Va., Feb. 1st, 1887.

The following cases are reported, illustrating the treatment employed:—

CASE I.—Mrs. H., aged 42 years; of good physique and constitution; was married ten years, without children. Was first seen by the writer August 10th, 1870. There was dysuria and pain about the pelvis and loins. Patient had suffered more or less for the last five years. Noticed there was an occasional escape of blood at the close of micturition and also a discharge from the vulva. Considerable inconvenience was experienced in walking. Careful examination of the parts revealed an irregular excrescence, about the size of a pea, at the meatus urinarius. The growth was highly sensitive and blood flowed freely on the lightest touch. It was flat and without any pedicle, and was attached to the mucous membrane at the lower verge of the meatus. After sponging the part with a dilute solution of soda chlorinata the growth was removed, including a portion of the mucous membrane on each side. Fuming nitric acid was freely used. Subsequently, tannin and glycerine were frequently applied, until October 10th, when all unpleasant symptoms had disappeared, and the meatus and the urethra appeared nearly normal. Since that time the patient's family have been under my care, but there has been no return of the disease.

CASE II.—Mrs. K., aged sixty years; mother of six children. Labors were normal, and the only affection retarding her recovery was an attack of phlegmasia dolens. The patient began, about five years ago, to have smarting and pain in micturition. She had a "dragging sensation" and other uncomfortable feelings about the hips and loins. Later there was a slight discharge of blood after urinating. This gradually became

* *British Medical Journal*, 1867.

† Clement Godson, *British Med. Jour.*, Jan., 1885; also "Braithwaite's Retrospect," part 91, p. 257.

‡ See *Journal American Medical Association*, Vol. VIII, page 223.

more profuse. Patient became dejected and impressed with the thought that she was the subject of cancerous disease. Examination showed that the uterus was slightly retroverted, and that the vestibulum vaginae was unusually narrowed, owing to the degenerative and atrophic changes of the mucous membrane. The capillaries in the vulva were dilated, and there were also several small patches of mucous membrane, quite red, and the redness only partially disappeared on pressure. Immediately in front of the meatus was a mass of veins and capillaries, quite flat and firmly held together by strong connective tissue. This mass was painless and of a deep bluish color. Just within the meatus was a flat or sessile excrescence, acutely sensitive, friable, and bled freely however lightly touched. As the patient had a weak heart and was a bad subject for ether, I began my treatment by applying fuming nitric acid to the painful growth, and the parts around were immediately sponged with tepid water. The applications of the acid were made at intervals of two to six weeks, covering a period of eighteen months, since which time nearly all unpleasant symptoms have disappeared. There is now no bleeding and the excrescence has also disappeared. The matted mass of veins and capillaries described as in front of the growth has not as yet very sensibly diminished, but is still painless, and no trouble of consequence is experienced from its presence.

CASE III.—Mrs. G., aged fifty years, mother of five children, began to suffer in May, 1880, from dysuria. She was frequently disturbed at night, and had a "bearing-down sensation of the bladder." She also complained of heat and burning in the vulva. There was a slight leucorrhœal discharge, and the urine was occasionally tinged with blood. She gradually became more restless and nervous, and by July, when I was first called, she was suffering extreme pain and other constitutional symptoms. Vaginal examination showed that the uterus and its appendages were in fair condition, but just within the meatus urinarius there was a vascular growth the size of a cherry, red and extremely sensitive, and raised above the mucous surface of the parts. The growth was partially pedunculated, and could be raised somewhat from the surrounding mucous membrane. The excrescence was friable and bled profusely when touched with forceps. The patient was etherized next day, and under antiseptic precautions the growth was removed by means of scissors. The mucous membrane on either side of the growth was also excised, and the parts freely cauterized by means of the galvano-cautery. Cicatrization was speedy and complete, and the patient considered herself not only relieved, but entirely cured. After a lapse, however, of five months, considerable sensitiveness began to return in the immediate vicinity of the former growth. Several enlarged papillæ appeared. These were removed, and their bases touched with strong nitric acid. This gave only slight relief, and she required enormous doses of morphia and other sedatives to overcome the nervous and sympathetic disturbance. The severe irritation now appeared to be chiefly centred in the nerve fibres and in the Pacinian bodies, in the vulva, and at or near the rim of the meatus. The patient's suffering from these little bodies at length became so augmented that whenever my visits were interrupted for a few days she sent for me in haste, informing me that she had found another growth, which gave her such uneasiness and suffering that she wished me to remove it. These different papillæ or sensitive points were removed with the point of scissors curved on the flat, and the parts were touched with crystals of carbolic acid liquefied by heat and strong nitric acid. The patient's suffering was so severe that her mind became unbalanced, and several months' treatment was required before she showed marked signs of improvement. Before recovery was complete the patient died of an intercurrent disease. The mucous membrane of the nymphæ and of the vestibule of the vagina had undergone gradual atrophy and degeneration.

I have also seen another case in which the mental condition was similar, and in which another surgeon had previously operated for urethral caruncle. This patient also

suffered a long time from sympathetic constitutional disturbance before she made much progress toward recovery.

CASE IV.—Miss B., aged thirty-six years, and of nervous temperament, had been in delicate health for several years. Her menses appeared at the age of thirteen and continued to appear quite regularly afterward. During the summer of 1881 the patient began to suffer from pain in micturition and from uncomfortable feelings in the pelvic region. She consulted a female physician, who attributed her suffering to uterine displacement, and put the patient on a course of treatment for such complaints. The patient gradually grew worse, and was unable to go up and down stairs or to take exercise in the open air, owing to an impairment of the power of locomotion. This latter symptom was regarded as resulting from a perverted condition of the uterus. The pain and other sympathetic symptoms grew worse and she became totally helpless. Patient, though naturally possessing an amiable disposition, grew excitable and betrayed symptoms of insanity. When I was called, in June, 1883, I found her helpless, emaciated and having been confined to her bed and room, for the most part, for several months. When I first called the patient had some cough, and that morning a profuse hæmoptysis. She had râles, but there was no marked dullness nor any history of hereditary predisposition to pulmonary disease. Patient rallied at length from this attack, and later vaginal examination showed that the uterus was somewhat anteverted, but not sufficiently to justify the opinion that it was a pathological factor of her disease. She complained of dysuria and extreme sensitiveness of the urethra. All parts of the vulva were markedly sensitive, and pressure of clothes produced severe pain. Microscopic examination of the urine revealed the presence of blood and epithelium, which undoubtedly came from the urethra. Exploration of the urethra by means of a small speculum and by Ellinger's dilator, under anæsthetics, revealed a urethral neoplasm, flat at the anterior aspect of the canal, but less sessile beyond. When lifted from the mucous membrane it seemed about the size of a strawberry, red and friable. Both growth and mucous membrane on either side were dissected away and the parts thoroughly cauterized with Paquelin's instrument. Much hemorrhage ensued, but was controlled by tampon in the vagina. Cicatrization followed, dysuria disappeared, and recovery was complete. No relapse has occurred and the anteversion gives no trouble.

CASE V.—Mrs. D., aged thirty-seven years, and married eight years, gave birth to a child two years after marriage; since then has not been pregnant. Previous to my attendance, for the last four years, she had suffered more or less from dysuria. She often had spells of unconsciousness. She suffered very much from nervous exhaustion. I was first called January 2d, 1886. At that time the patient had a well-marked seizure of epilepsy. She was unconscious and the pupils were dilated and immovable when I reached the house. Her husband informed me that she had had other similar attacks, varying at intervals from one to three months; that he had "tried all sorts of treatment for her relief." There was foaming at the mouth, convulsions of the limbs, and the tongue was bitten early in the paroxysm. The patient at length rallied, and next day was quite well. Careful examination of the various organs only gave negative results, and no pathological factors as to the cause of the epileptic seizures could be discovered, except that complained of as being connected with micturition. May 10th following, the patient had another epileptic attack, immediately after which a thorough examination of the meatus and urethra revealed the presence of a urethral vascular growth, situated just within the meatus urinarius. It was irregularly shaped, highly sensitive, and bled when touched with forceps. A 10 per cent. solution of hydrochlorate of cocaine was applied, and the growth and mucous membrane on either side were dissected away with curved scissors, and the parts were freely cauterized by means of the thermo-cautery. The patient recovered wholly from the effects of the operation, and the dysuria ceased after the third week. The patient after this had three attacks,

but they were only *petit mal*, and for the last eight months has had no indications whatever of an epileptic attack. There has been no return of the dysuria, though there is some hyperæsthesia in the vicinity of the cicatrix when the parts are touched. The patient considers herself as cured.

I have notes of another case of *grand mal* occurring in a patient aged forty-seven years, who was cured after the removal of a urethral vascular growth.

Six months since I was called in consultation to see a case of a married lady, aged twenty-nine years, who had frequent attacks of *petit mal*, and who was relieved after the removal of the vascular neoplasm of the urethra. In the last case a four per cent. solution of cocaine and fuming nitric acid, applied at intervals of three weeks for three times, appeared quite sufficient to arrest the local disturbance and the epileptic paroxysms.

Urethral vascular growths are not always attended with local suffering in the parts invaded; for sometimes the manifestations of the augmented sensitiveness is experienced only at a distance from the part invaded.

I am in possession of notes of a case of vaginismus which I was called to see in consultation. All the exalted sensitiveness complained of was at or near the hymen, and at the entrance of the vagina. The woman, though married, was unable to fulfill her marital duties, and coition at length became impossible. Examination of the parts disclosed the existence of an exceedingly small and irregularly shaped urethral caruncle within the urethra. Three months after its removal the vaginismus disappeared altogether. Occasionally the local manifestations of a urethral vascular growth are only in the bladder, the uterus, or the tissues of the rectum. When the disturbance is centred in the rectum the cause of the trouble may be suspected at first to arise from fissure in ano; but the suffering occurring in the sphincter of the anus will not be as intense and constant as that which is experienced from a fissure of that part. Not long since a distinguished medical friend invited me to see a case of urethral vascular growth occurring in a married lady, who felt no inconvenience from the growth, except pain and dull aching in the hypogastric and lumbar regions. The patient was aged twenty-seven years, and was the mother of three children, but no cause for her suffering could be discovered except this growth, which was situated just beyond the meatus, in the urethra. It was sessile, extremely sensitive when touched. There was occasionally a slight admixture of blood with the urine, which finally led to the discovery of the growth. Thorough cauterization soon gave marked relief to the patient's distressing symptoms.

As a patient often gives a vague and indefinite description as to the seat of the affection, it is always necessary to make a careful examination, to insure the certainty of the existence of the growth.

I well remember hearing the late Dr. Charles H. Allen, of Cambridge, say that he had cured a woman of paralysis of both legs by treating her for a urethral polypus. Jonathan Hutchinson, as already stated, mentions, as occurring in his practice, a case of paraplegia resulting from a vascular growth at the meatus urinarius.

Recently I have used a saturated solution of cocaine, made solely by the use of strong nitric acid, with happy effect. This has enabled removal, even by scissors, if necessary, without other anæsthetic, and hemorrhage was easily controlled, no pain being complained of during, or subsequent to, operation. Of course, a general anæsthetic cannot be dispensed with in any but exceptional cases.

FIG. 1.



Caruncle of female urethra, $12\times$. Outline regular.
Papillæ and crypts. Foci of inflammatory cells.

FIG. 2.



Caruncle of female urethra. $100\times$. Outline of papillæ very irregular. No distinct crypts.

FIG. 3.



Caruncle of female urethra, $100\times$. Outline regular. Ditto papillæ and crypts. A portion of Fig. 1 more highly magnified.

FIG. 4.



Caruncle of female urethra, $500\times$. Two papillæ and crypts from Fig. 3 more highly magnified. Showing arrangement of epithelial cells on mucous surface, being from within outward: cylindrical, round and flat squamous cells.

